Cisco Call Manager Express+ SiSky (Skype Landline Gateway) Solution

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Yeastar Technology Co., Ltd.

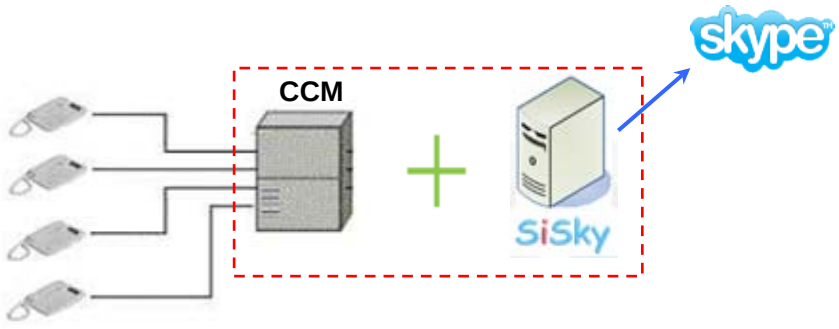
1. Introduction

1.1 Solution Overview

SiSky is a 100% software Skype gateway that supports maximum 30 channels on a single computer. Utilizing SiSky gateway with Cisco Call Manager, businesses can substantially save on both domestic long-distance and international calls.

Firstly install SiSky on a server and then dock the Call Manager in the IP address of SiSky server, users can make the calls to any landline number (PSTN & Mobile) at low SkypeOut rates on the normal desk phone without any habits changed.

1.2 Flow Chart



1.3 Environment

SiSky Server Requirements:

CPU	Intel Xeon X5410 * 2
Mainboard	MCH Intel 5000V ICH Intel 6321ESB
Memory	ECC 2G * 2
Disk	SATA 80G 7200rpm
Power Supply	AC Input: 100~240V, 50~60Hz,3~6A; AC Output: 600W（MAX）
Network	RJ45 (100M Ethernet)
OS	Windows XP / 2003
Internet Connection	Dedicated Broadband downlink>=2Mbps，uplink >=2Mbps

Best Application

Skype Unlimited Calls Subscriptions

Management

Load Balancing: system will distribute the call rate equally among all trunks
Correct Billing System: Whether to not to answer SIP incoming calls immediately. System takes with reversal signal that can charge the calling time correctly.

Compatibility

Compatible with all soft switch platforms support with standard SIP protocol

Carrier Class Stabile Performance

30 Channels in a single server is unique to SiSky Skype gateway.
Non-destructive control of Skype voice stream to assure the excellent call quality.

2. Installing SiSky Server

2.1 Installing SiSky Software

This section shows how to install SiSky EE software on the PC.

Note: Before installing SiSky software, you should first **uninstall** Skype software on your computer if you already have Skype software installed.

Steps:

1. Download software from website http://www.yeastar.com. And Double-Click to Start Installation Process.

2. A **Welcome to the SiSky Installation** screen will come up. Click **Next** to continue. See Figure 2-1.

Installing SiSky Enterprise Edition
Welcome to the SiSky Enterprise Edition Installation!
This setup program will install SiSky Enterprise Edition on your computer. Click Exit if you do not want to install this application. Click Next to continue the installation.
WARNING: This program is protected by international copyright law and treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties and will be prosecuted to the maximum extent of the law.
Next >
Exit

Figure 2-1

3. Read through the software **License Agreement**, **select I agree with the above terms and conditions**, and then click **Next** to continue. See Figure 2-2

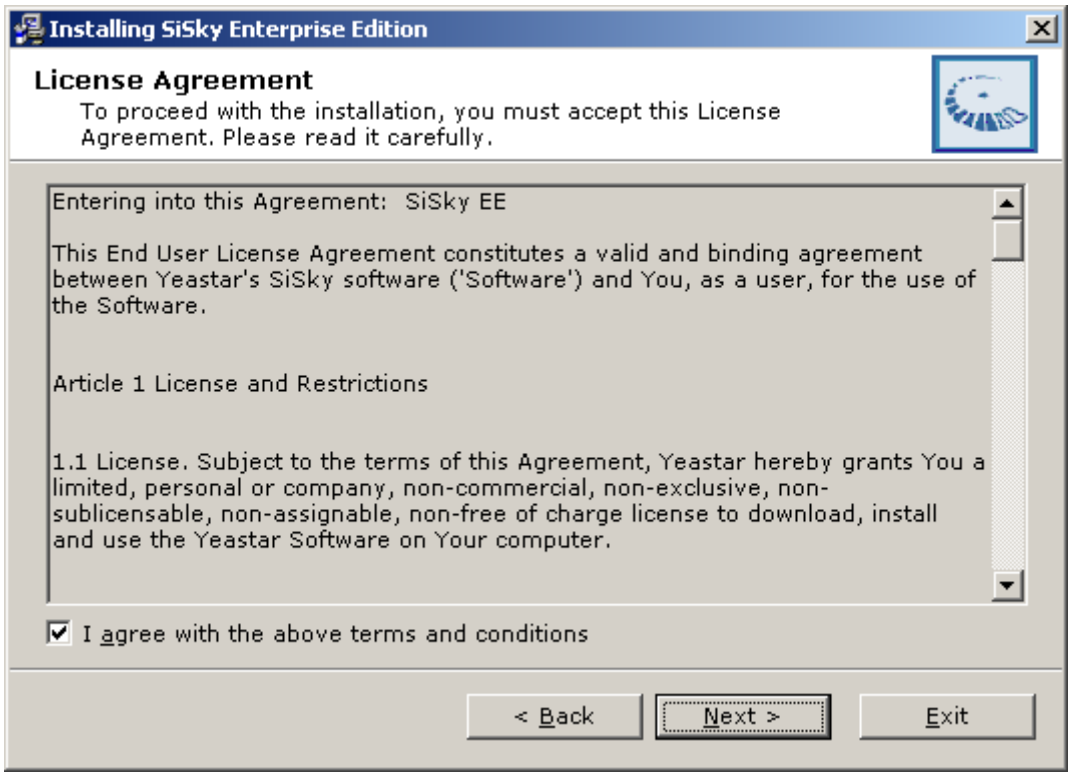

Installing SiSky Enterprise Edition
License Agreement
To proceed with the installation, you must accept this License Agreement. Please read it carefully.
Entering into this Agreement: SiSky EE
This End User License Agreement constitutes a valid and binding agreement between Yeastar's SiSky software ('Software') and You, as a user, for the use of the Software.
Article 1 License and Restrictions
1.1 License. Subject to the terms of this Agreement, Yeastar hereby grants You a limited, personal or company, non-commercial, non-exclusive, non-sublicensable, non-assignable, non-free of charge license to download, install and use the Yeastar Software on Your computer.
I agree with the above terms and conditions
< Back
Next >
Exit

Figure 2-2

4. A Readme info window will appear. Click **Next** to continue.

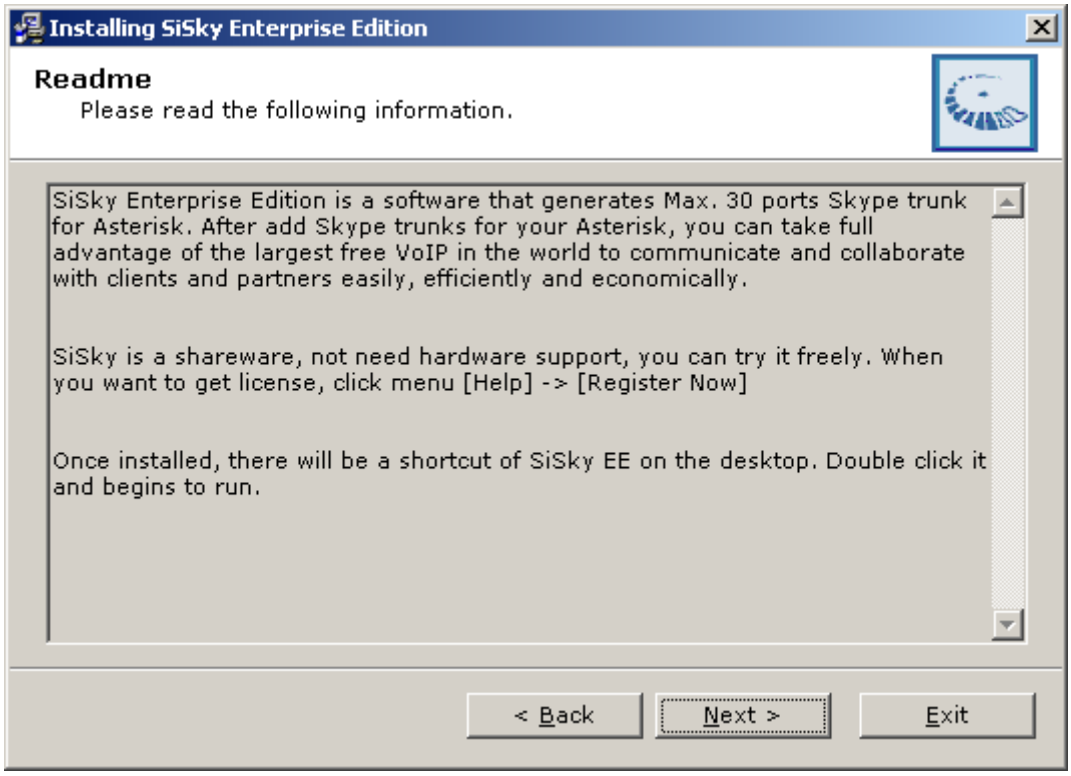

Installing SiSky Enterprise Edition
Readme
Please read the following information.
SiSky Enterprise Edition is a software that generates Max. 30 ports Skype trunk for Asterisk. After add Skype trunks for your Asterisk, you can take full advantage of the largest free VoIP in the world to communicate and collaborate with clients and partners easily, efficiently and economically.
SiSky is a shareware, not need hardware support, you can try it freely. When you want to get license, click menu [Help] -> [Register Now]
Once installed, there will be a shortcut of SiSky EE on the desktop. Double click it and begins to run.
< Back
Next >
Exit

Figure 2-3

5. The **Destination folder** window will offer you the option where you would like SiSky to

be stored on your computer. Click **Next** to continue.

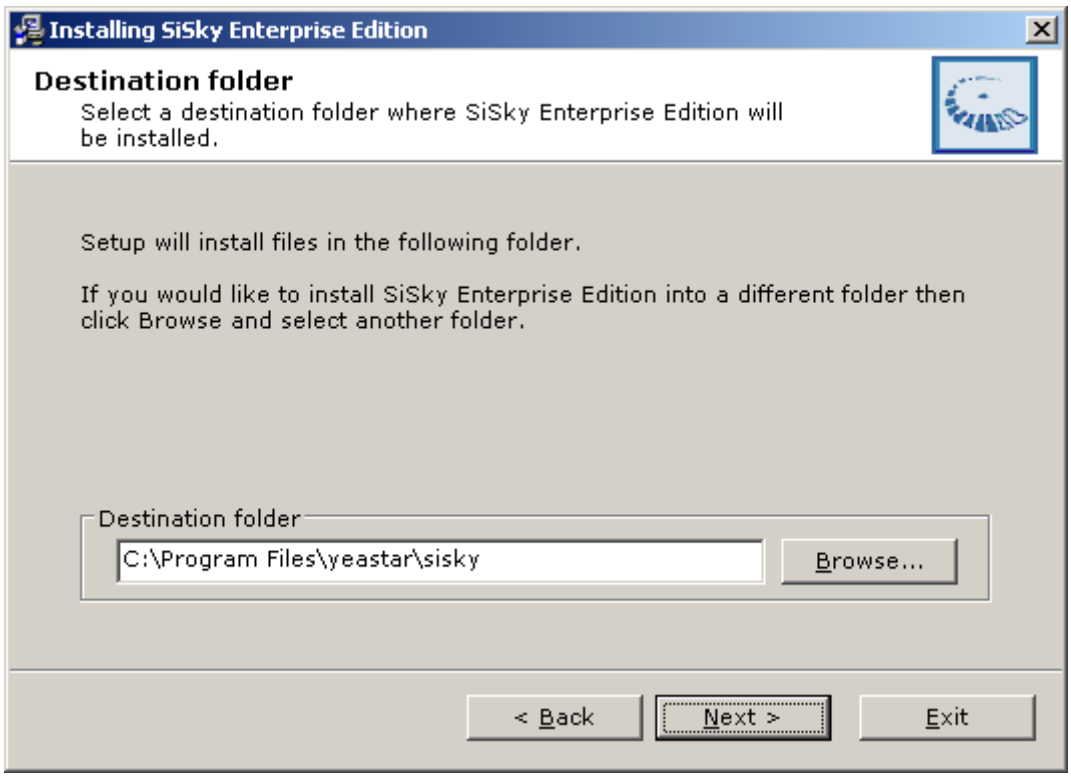

Installing SiSky Enterprise Edition
Destination folder
Select a destination folder where SiSky Enterprise Edition will be installed.
Setup will install files in the following folder.
If you would like to install SiSky Enterprise Edition into a different folder then click Browse and select another folder.
Destination folder
C:\Program Files\yeastar\sisky
Browse...
< Back
Next >
Exit

Figure 2-4

6. Enable the options by your own demands, and then click **Next**.

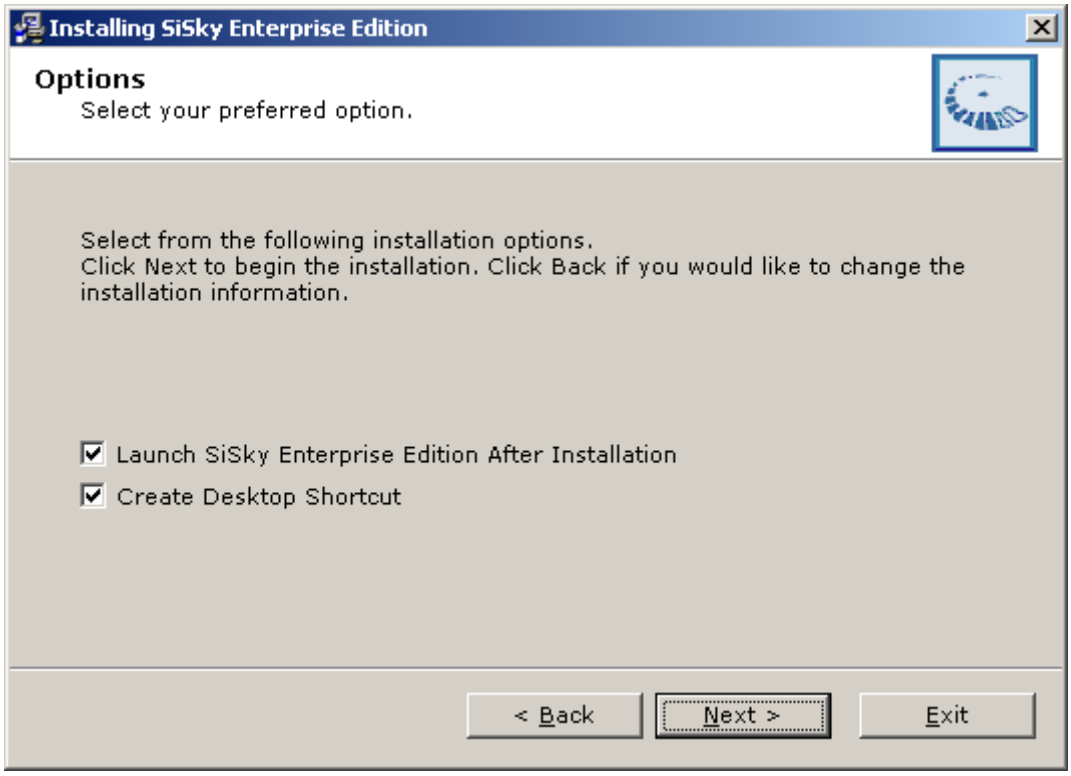

Installing SiSky Enterprise Edition
Options
Select your preferred option.
Select from the following installation options.
Click Next to begin the installation. Click Back if you would like to change the installation information.
Launch SiSky Enterprise Edition After Installation
Create Desktop Shortcut
< Back
Next >
Exit

Figure 2-5

7. Enter into the **Installing Files**, system begin to configuration, which will last for a

while.

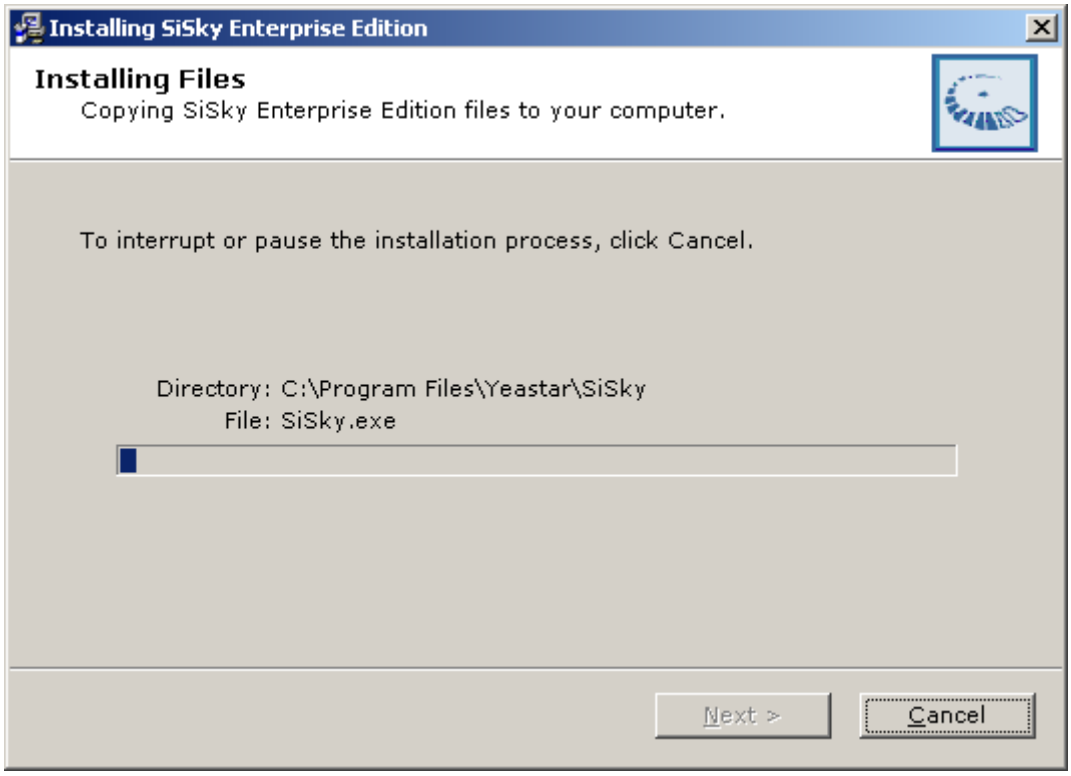


Figure 2-6

8. When the installation is complete, a screen will pop-up to notify you that the software is installed successfully. Click **Finish**.

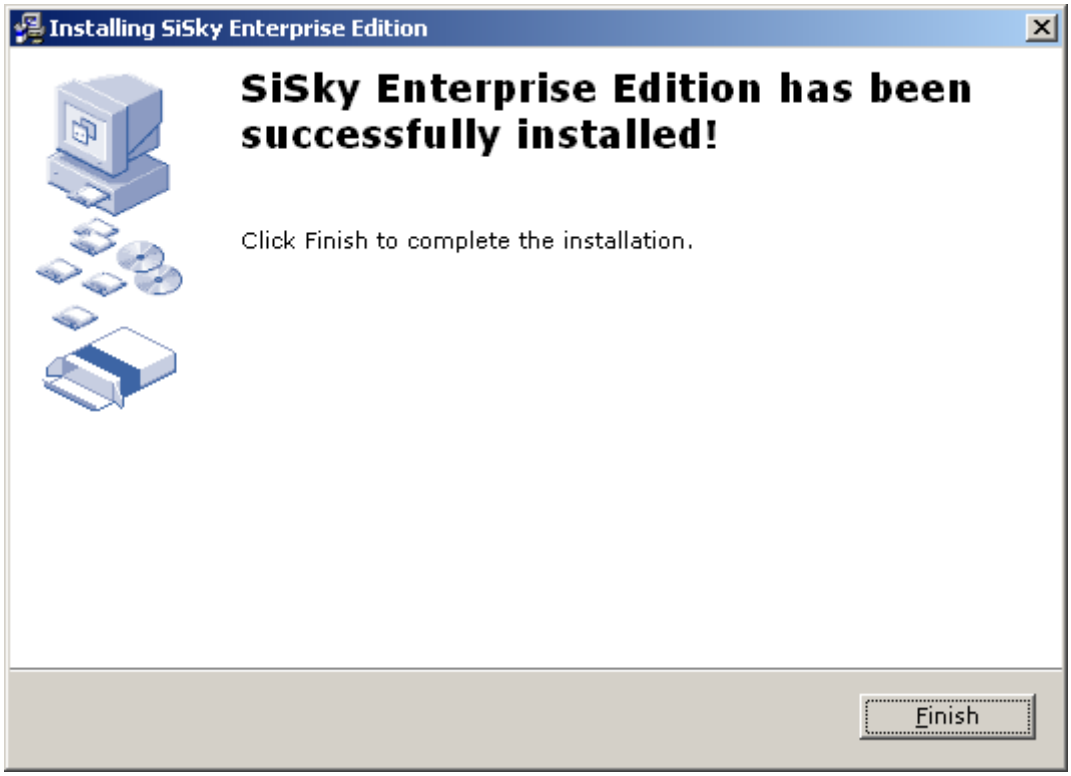

Installing SiSky Enterprise Edition
SiSky Enterprise Edition has been successfully installed!
Click Finish to complete the installation.
Finish

Figure 2-7

9. The final screen reminds you to restart computer in order to complete the installation.

You would better to restart now.

Figure 2-8

10. Launch SiSky to enter the next chapter.

2.2 Configuring Skype Accounts

Step 1：Configure SiSky through Wizard

On initial use, a **Message** screen will pop-up and click 'Yes' to launch the Wizard.

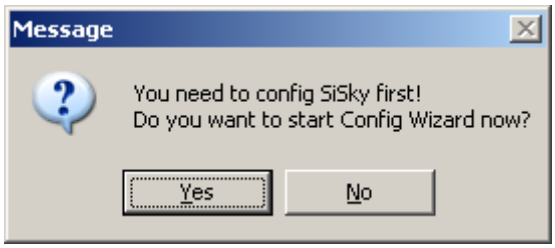


Figure 2-9

Or you can click the **Config** on SiSky to launch the Wizard. (If the **Config** button is invalid, please click **Stop** to stop SiSky first)

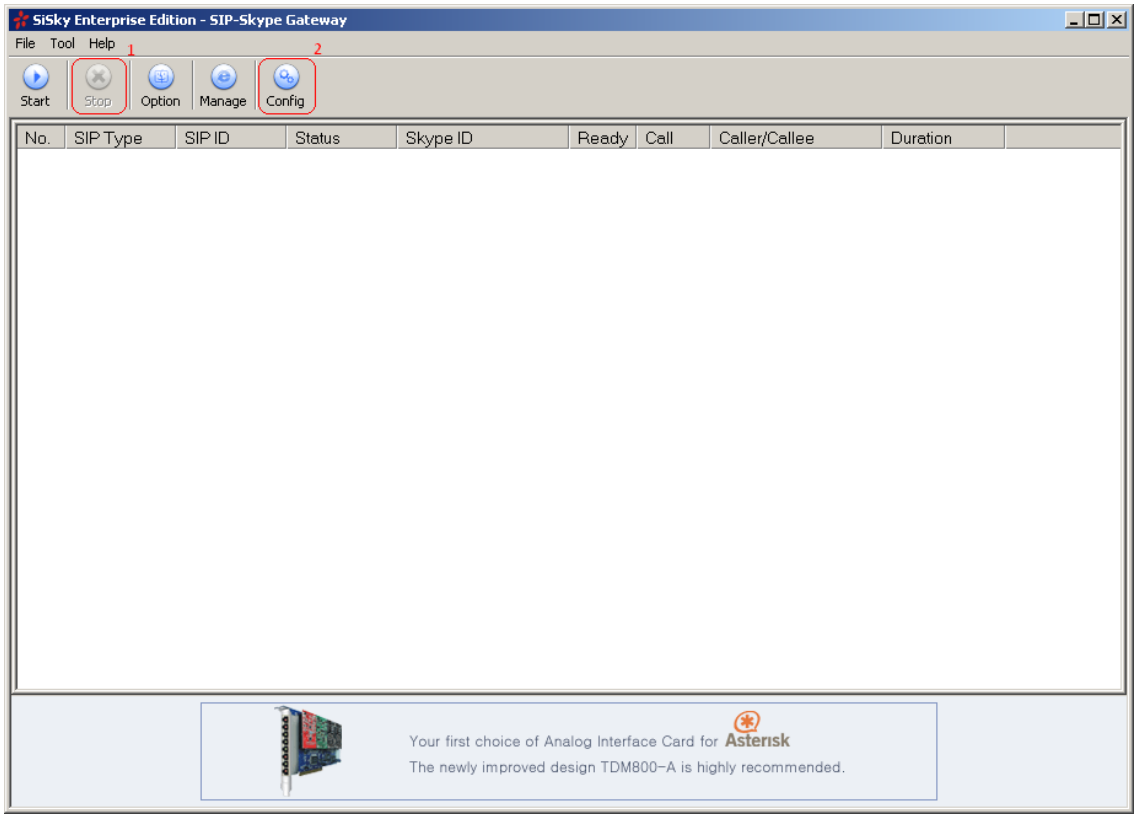


Figure 2-10

Step 2：Launch the Config Wizard

Figure 2-11

Step 3：Select Skype Trunk Number

Select the **Skype Trunk Number** and then click **Next**

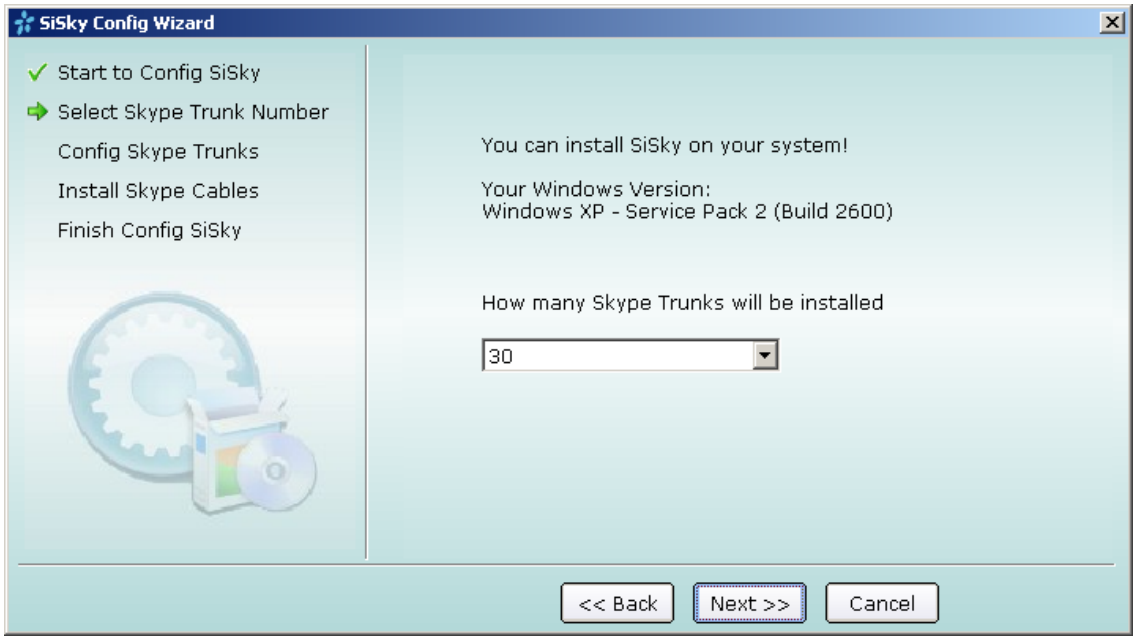


Figure 2-12

Step 4: Configure Skype for Each Port

Enable **Install Skype for this port** and Skype will launch.

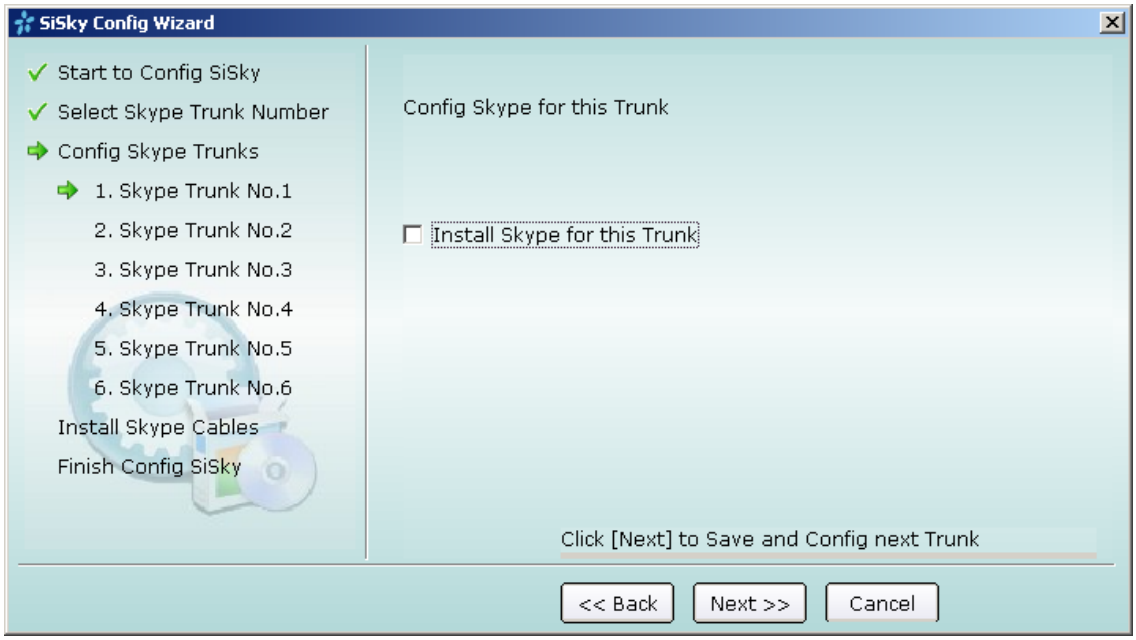


Figure 2-13

A **Skype?—Creat Account** will appear. Create a new account (see Figure2-14) or Cancel it and log in by using an existing Skype account.

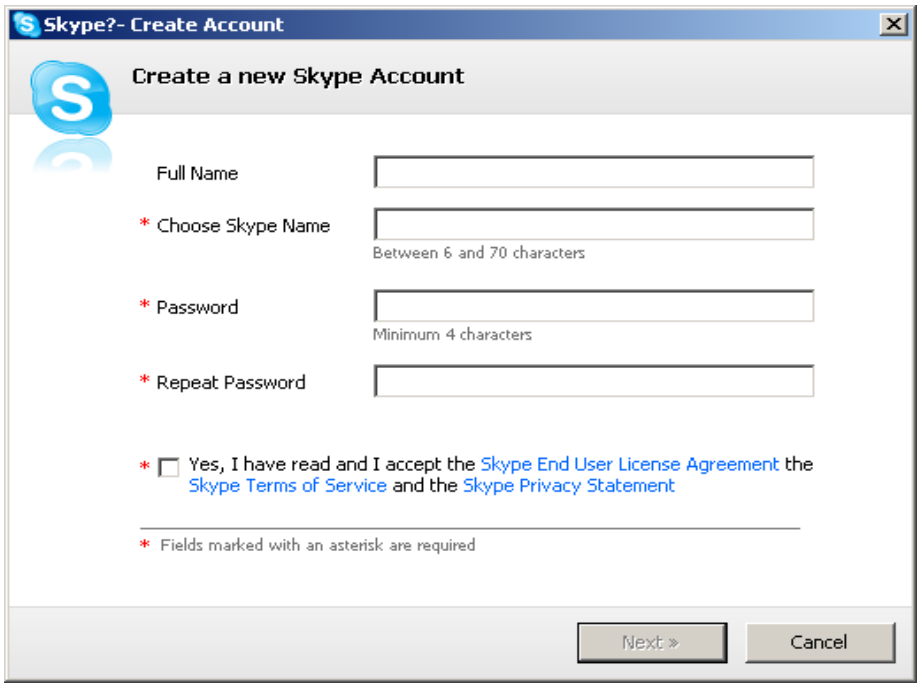

Skype?- Create Account
Create a new Skype Account
Full Name
* Choose Skype Name
Between 6 and 70 characters
* Password
Minimum 4 characters
* Repeat Password
* Yes, I have read and I accept the Skype End User License Agreement the Skype Terms of Service and the Skype Privacy Statement
* Fields marked with an asterisk are required
Next »
Cancel

Figure 2-14

Enable the **Sign me in when Skype Starts** and wait for Skype to log you in.

Figure 2-15

When SiSky get the Skype Name automatically, the configuration of Port 1 is finished. Click **Next** to configure other ports by the same way.

Note: After these steps are complete, repeat step4 to configure the remaining ports and their Skype accounts. When the remaining ports are configured, there will be a green tick before every port. See Figure 2-16

Step 5: Install Skype Cables

Enable **Install Skype Cables** and click **Next** to continue.

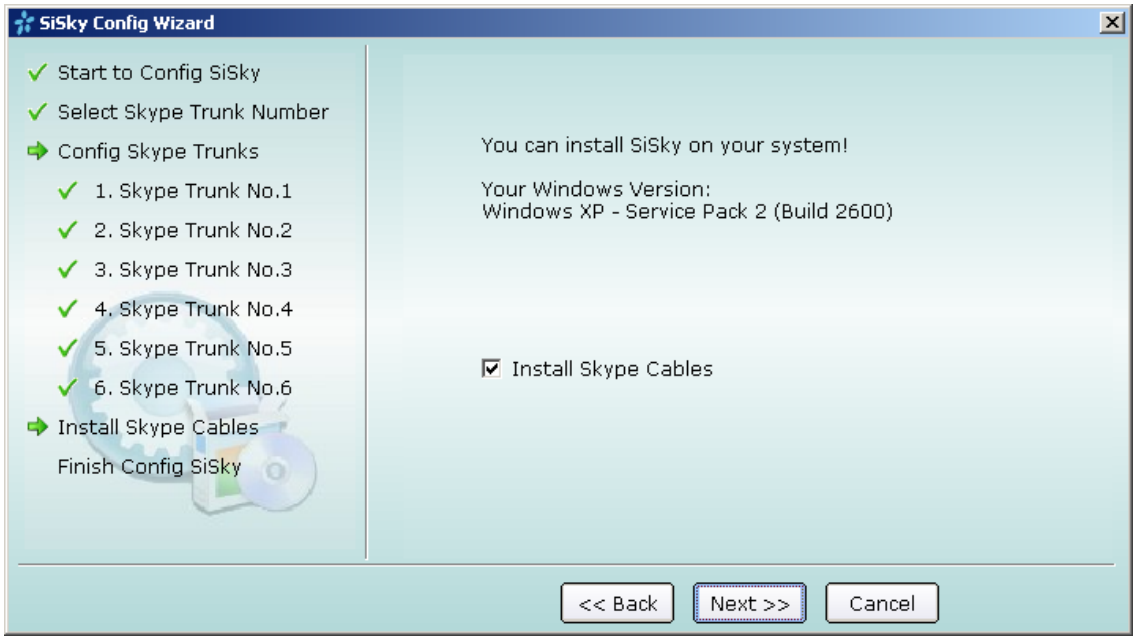


Figure 2-16

The following window maybe will appear during the system installation. Click **Continue Anyway**

Hardware Installation
The software you are installing for this hardware:
Yeastar Skype Cable (Multiple Channels) (WDM)
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

Figure 2-17

Step 6: Finish Config. Wizard

Select the country you are living, and then click 'Finish'.

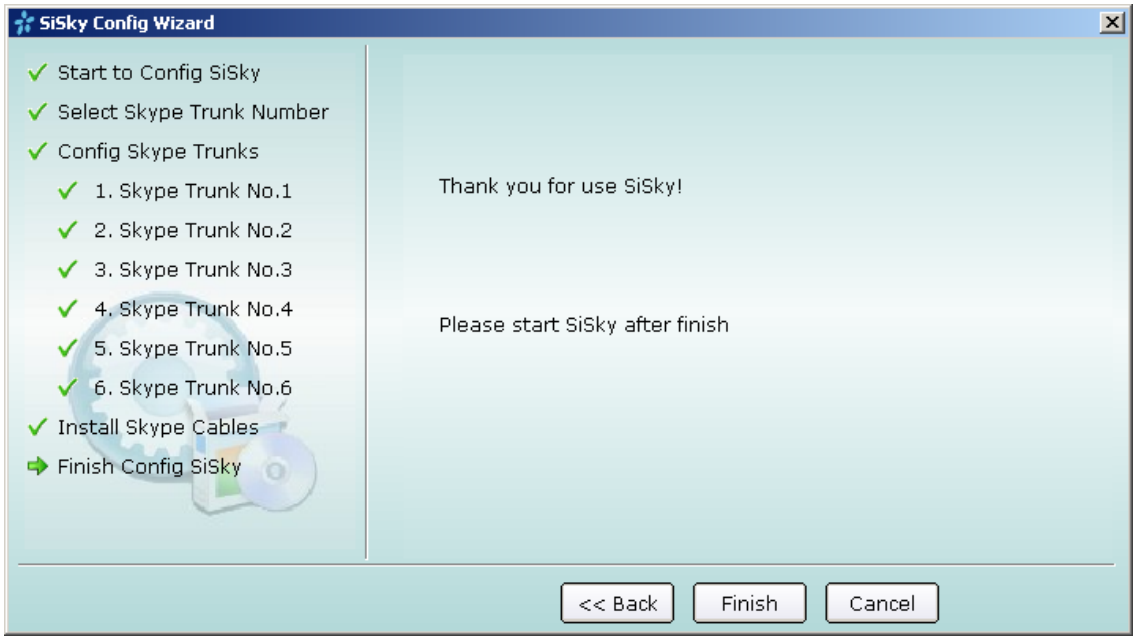


Figure 2-18

Step 7: Double-click the shortcut on desk to run the SiSky software

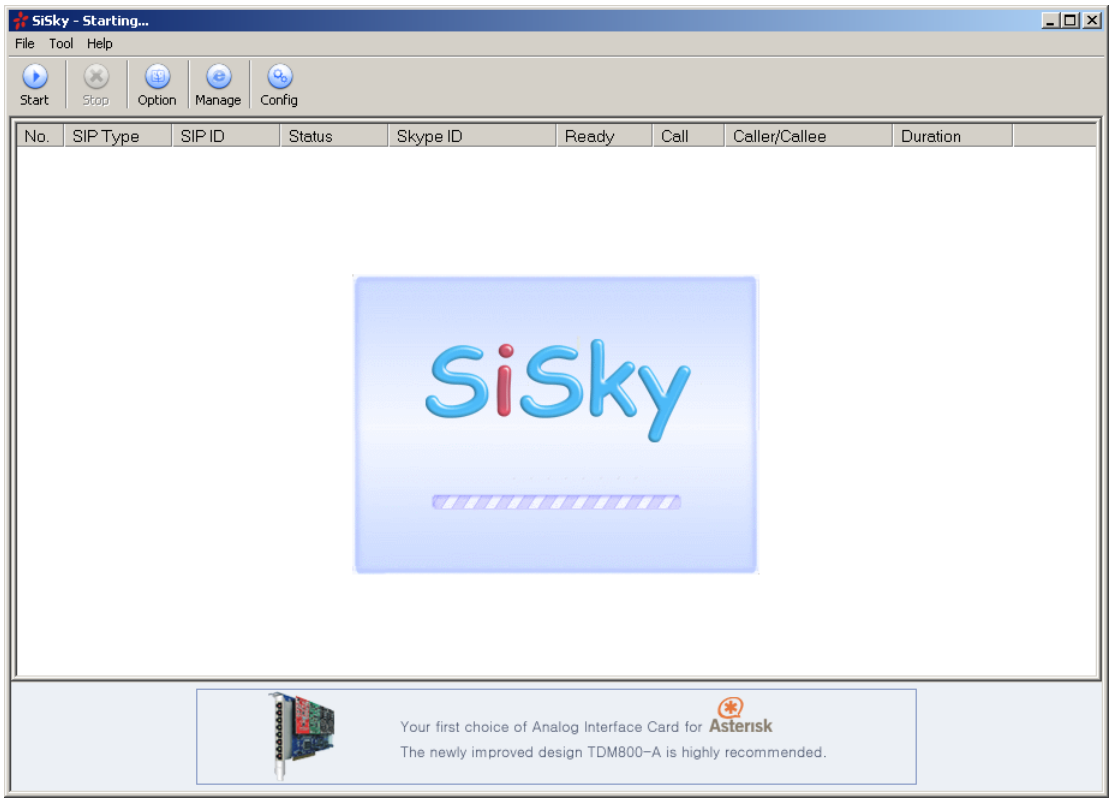


Figure 2-19

Step 8: Wait for all Skype IDs to log in. **Another program wants to use Skype** screen will come up. Click on the circle next to the first option, Allow this program to use Skype, and click **OK** to save.

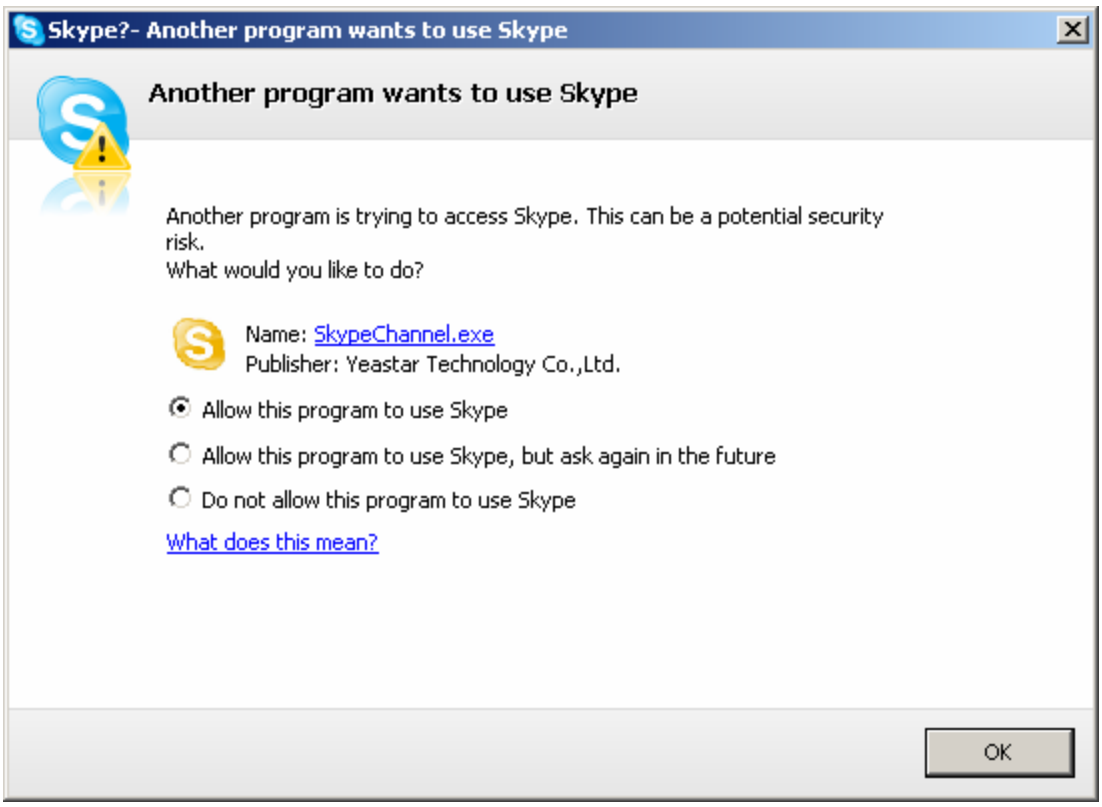

Skype?- Another program wants to use Skype
Another program wants to use Skype
Another program is trying to access Skype. This can be a potential security risk.
What would you like to do?
Name: SkypeChannel.exe
Publisher: Yeastar Technology Co.,Ltd.
Allow this program to use Skype
Allow this program to use Skype, but ask again in the future
Do not allow this program to use Skype
What does this mean?
OK

Figure 2-20

Step 9: Check if the status of all ports and Skype are absolutely normal as Figure 2-21. If Skype is launched successfully, the status of 'Ready' will show as 'Yes' on SiSky main interface.

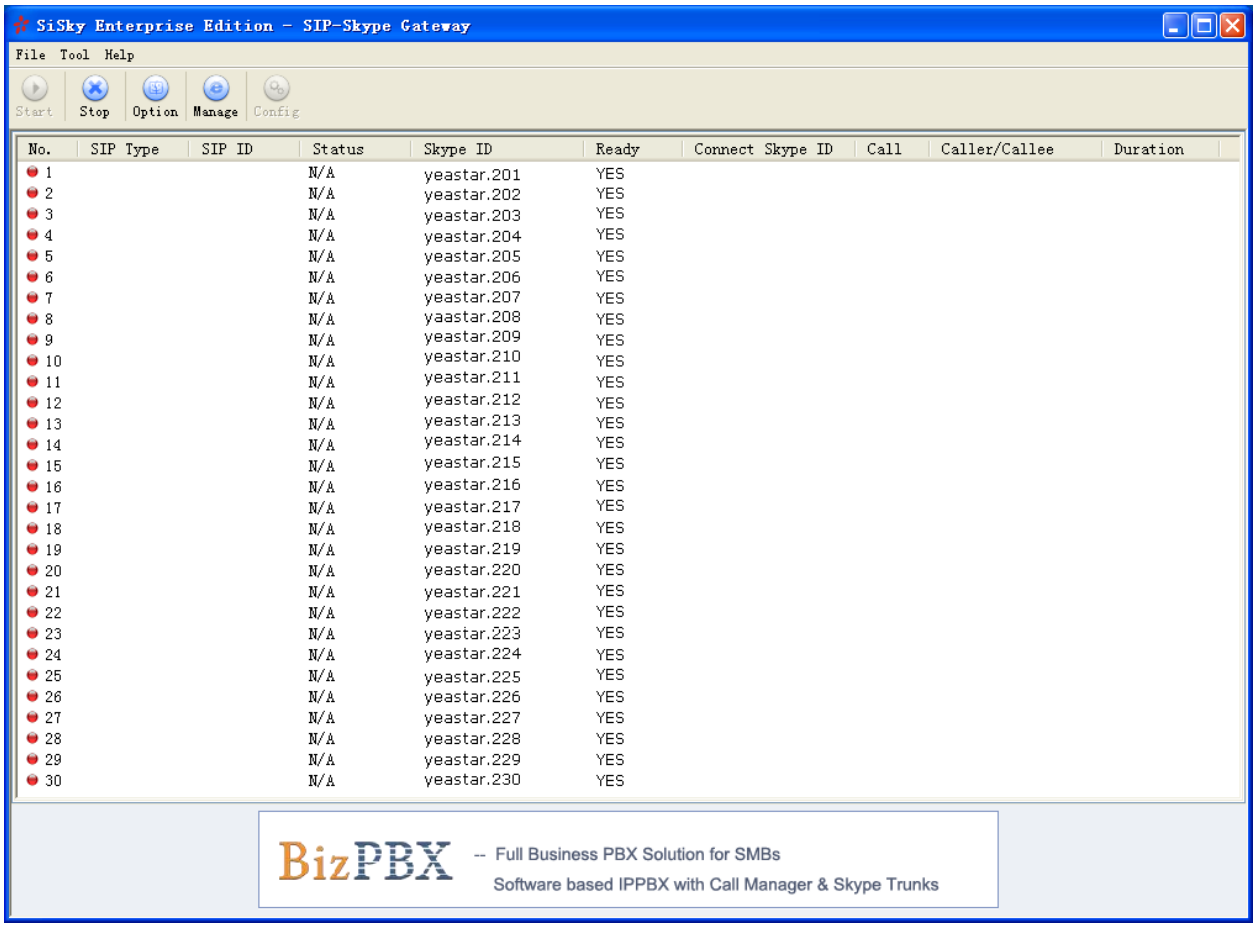

SiSky Enterprise Edition - SIP-Skype Gateway
File Tool Help
Start Stop Option Manage Config
No. SIP Type SIP ID Status Skype ID Ready Connect Skype ID Call Caller/Callee Duration
1 N/A yeastar.201 YES
2 N/A yeastar.202 YES
3 N/A yeastar.203 YES
4 N/A yeastar.204 YES
5 N/A yeastar.205 YES
6 N/A yeastar.206 YES
7 N/A yeastar.207 YES
8 N/A yaastar.208 YES
9 N/A yeastar.209 YES
10 N/A yeastar.210 YES
11 N/A yeastar.211 YES
12 N/A yeastar.212 YES
13 N/A yeastar.213 YES
14 N/A yeastar.214 YES
15 N/A yeastar.215 YES
16 N/A yeastar.216 YES
17 N/A yeastar.217 YES
18 N/A yeastar.218 YES
19 N/A yeastar.219 YES
20 N/A yeastar.220 YES
21 N/A yeastar.221 YES
22 N/A yeastar.222 YES
23 N/A yeastar.223 YES
24 N/A yeastar.224 YES
25 N/A yeastar.225 YES
26 N/A yeastar.226 YES
27 N/A yeastar.227 YES
28 N/A yeastar.228 YES
29 N/A yeastar.229 YES
30 N/A yeastar.230 YES
BizPBX -- Full Business PBX Solution for SMBs
Software based IPPBX with Call Manager & Skype Trunks

Figure 2-21

3. Connecting CCME with SiSky

For instance, Cisco Call Manager Express server's IP address is 192.168.5.240, SiSky server's IP address is 192.168.5.246. Take the voice code G711 as an example.

3.1 Configuring SiSky Server

3.1.1 Set SiSky Options

1. Set the Access IP Address

Click 'Option' on SiSky main menu.

1）Start SiSky When I start Windows

2）Add load balancing engine:

Note: this function will help system to equal call rate among all trunks.

3）Answer SIP incoming call immediately

Note: If disable this function, system will not sent reversal signal.

4）Access IP Address: Cisco Call Manager Express IP address

Note： Multiple IP Address separated by ';'.

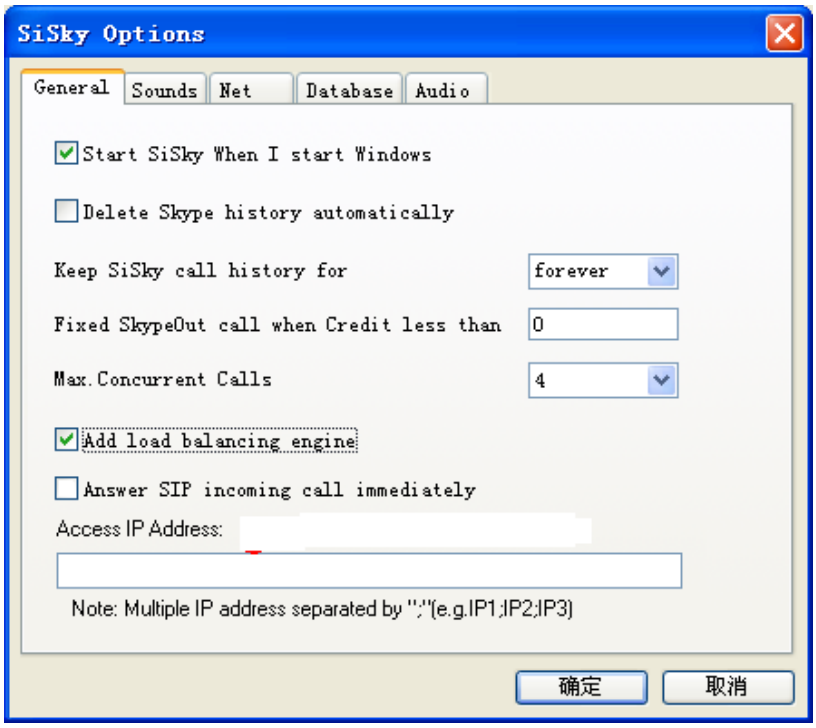


Figure 3-1

2. Net

1）Enable Direct Outward Dialing-One of Extension Mode: P2P mode.

2）Use STUN Server: Enable STUN Server

Note：If server is under router, please enable this function.

3）Local Port: SIP port

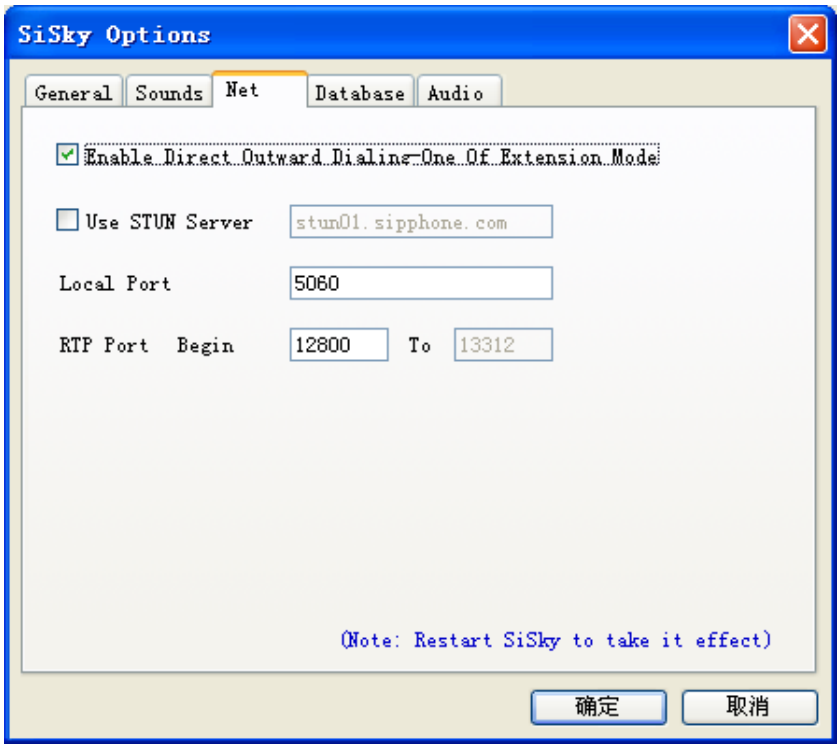


Figure 3-2

3. Audio

SiSky default code is G711. If you want to use G729 or G723, please click on the box and up it to the first rank.

Note：You need to restart SiSky software to activate the new configuration.

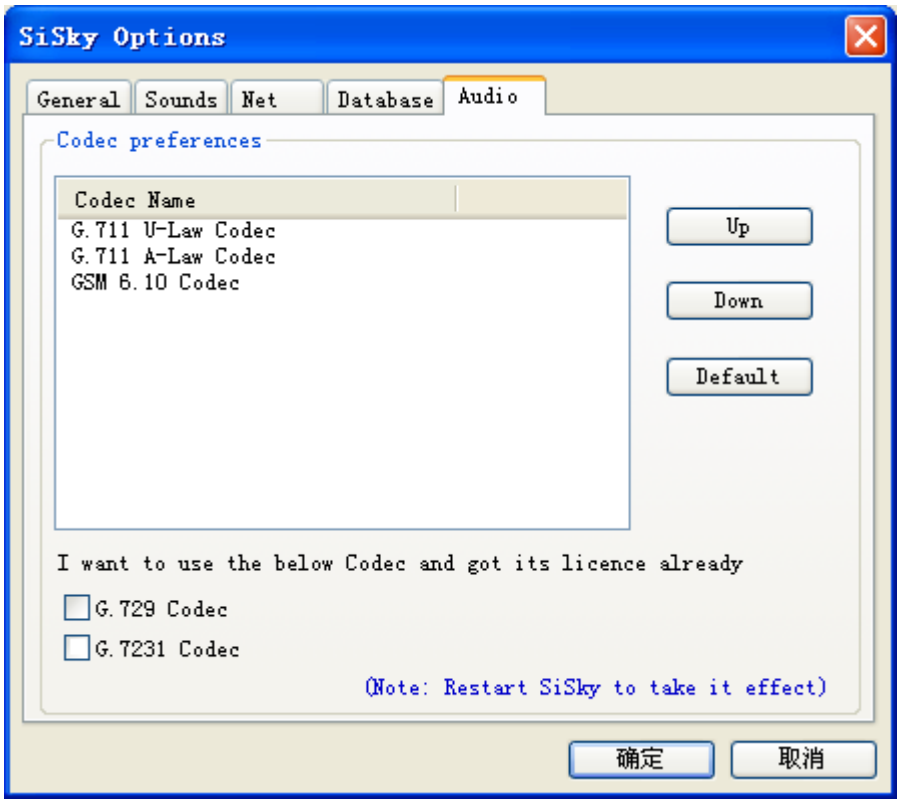

SiSky Options
General
Sounds
Net
Database
Audio
Codec preferences
Codec Name
G.711 U-Law Codec
G.711 A-Law Codec
GSM 6.10 Codec
Up
Down
Default
I want to use the below Codec and got its licence already
G.729 Codec
G.7231 Codec
(Note: Restart SiSky to take it effect)
确定
取消

Figure 3-3

3.1.2 Set Dial Rule for SiSky

Step1：Open the SiSky Administration page.

Click ‘Manage’ button to enter into the page.

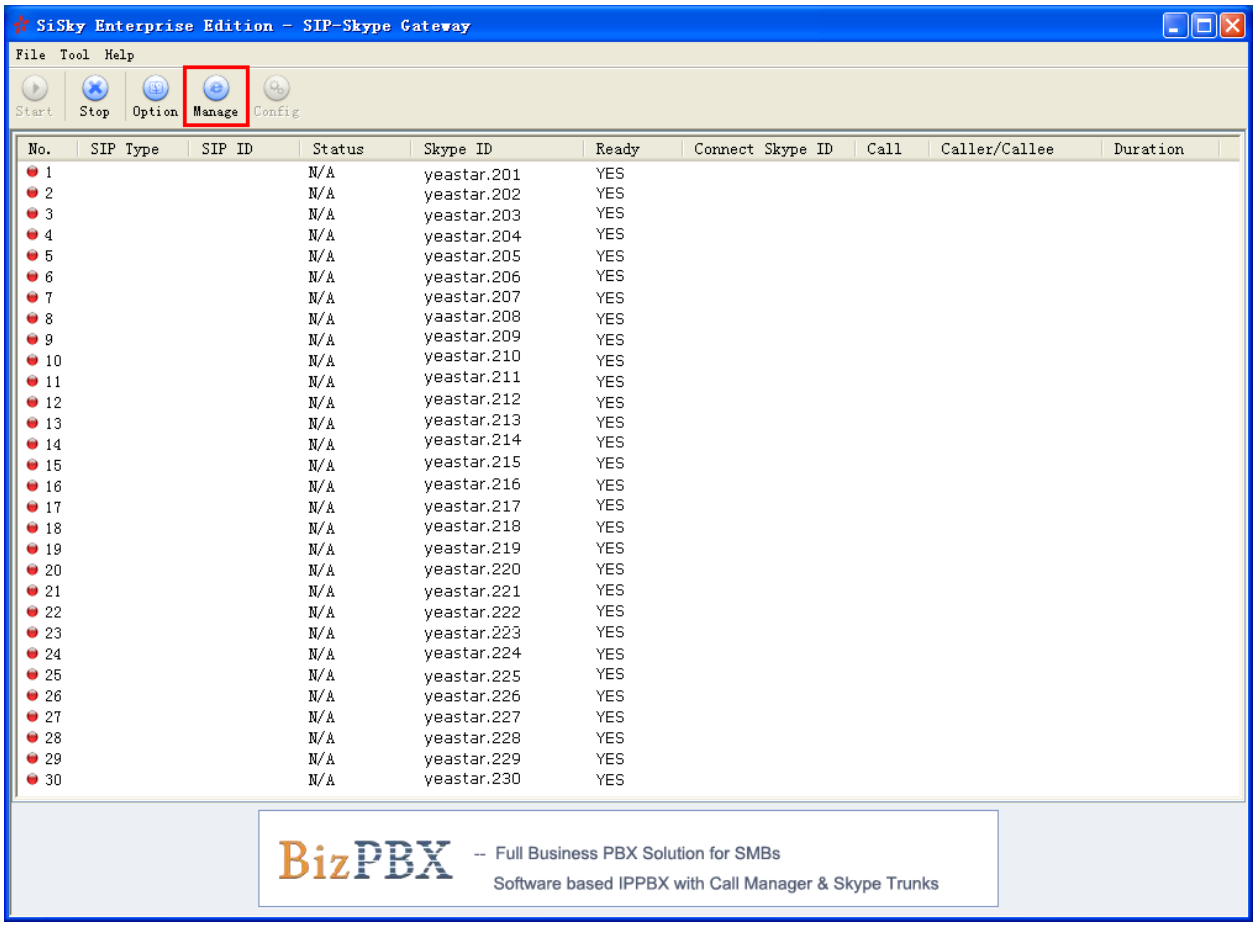

SiSky Enterprise Edition - SIP-Skype Gateway
File Tool Help
Start
Stop
Option
Manage
Config
No. SIP Type SIP ID Status Skype ID Ready Connect Skype ID Call Caller/Callee Duration
1 N/A yeastar.201 YES
2 N/A yeastar.202 YES
3 N/A yeastar.203 YES
4 N/A yeastar.204 YES
5 N/A yeastar.205 YES
6 N/A yeastar.206 YES
7 N/A yeastar.207 YES
8 N/A yaastar.208 YES
9 N/A yeastar.209 YES
10 N/A yeastar.210 YES
11 N/A yeastar.211 YES
12 N/A yeastar.212 YES
13 N/A yeastar.213 YES
14 N/A yeastar.214 YES
15 N/A yeastar.215 YES
16 N/A yeastar.216 YES
17 N/A yeastar.217 YES
18 N/A yeastar.218 YES
19 N/A yeastar.219 YES
20 N/A yeastar.220 YES
21 N/A yeastar.221 YES
22 N/A yeastar.222 YES
23 N/A yeastar.223 YES
24 N/A yeastar.224 YES
25 N/A yeastar.225 YES
26 N/A yeastar.226 YES
27 N/A yeastar.227 YES
28 N/A yeastar.228 YES
29 N/A yeastar.229 YES
30 N/A yeastar.230 YES
BizPBX -- Full Business PBX Solution for SMBs
Software based IPPBX with Call Manager & Skype Trunks

Figure 3-4

Step 2：Admin Log In

Enter the user name and password

The default user name is **admin**, and password is **password**

Step 3：Set Dial Rule

Making calls through Skype, one have to conform to the Skype dialing scheme as well as calling through PSTN. Maybe you had already got used to PSTN scheme and not accustomed to Skype rules. Therefore, **Dial Rule** settings will assist you to make Skype calls based on traditional PSTN calling habits. Keep the dialing habit as same as PSTN.

For example, a PSTN user in the mainland of China wants to make an international call IDDD (international direct distance dialing), which format is **00+country code+area code+telephone number**; make a domestic call DDD (domestic distance dialing), which format is **0+area code+telephone number**; While the SkypeOut format, no matter of

domestical or international calls, is **00+country code+area code+ telephone number**.

An International call:

1) A Chinese user calls to Canada in traditional **PSTN format**: the country code is 1, the area code is 416, phone number is "12345678", then he would dial: **00** +1+ 416 + 12345678;
2) A Chinese user calls to Canada in **SkypeOut format**: the country code is 1, the area code is 416, phone number is "12345678", then he would dial: **00** +1+ 416 + 12345678;
In this example, the PSTN and SkypeOur format for an international call is the same.

A Domestic Distance call:
3) A Chinese user in Paking calls to Shenzhen in traditional **PSTN format**: the area code is "755", phone number is "12345678", then he would dial:
0+755+12345678;
4) A Chinese user in Paking calls to Shenzhen in **SkypeOut format**: the area code is "755", phone number is "7571234", then he would dial:
00+86 (country code)+755+12345678;

Therefore, in order to not change the PSTN dialing format, this user can take advantage of dial rule to set it as below for simple:

substitute **00** for **00**; and substitute **0** for **0086** as Figure 4-5:

When the number begins by 00, SiSky will identify it as international call requirement. When the dialing call begins by 0, SiSky will identify the 0 as domestic call requirement and transfer it to 0086 automatically to conform SkypeOut format.

Why we substitute 00 for 00? Say it simply, to prevent 00 matches with 0. Because both the international and domestic calls are begin by 0, for fear of replacing 00141612345678 with 008600141612345678.

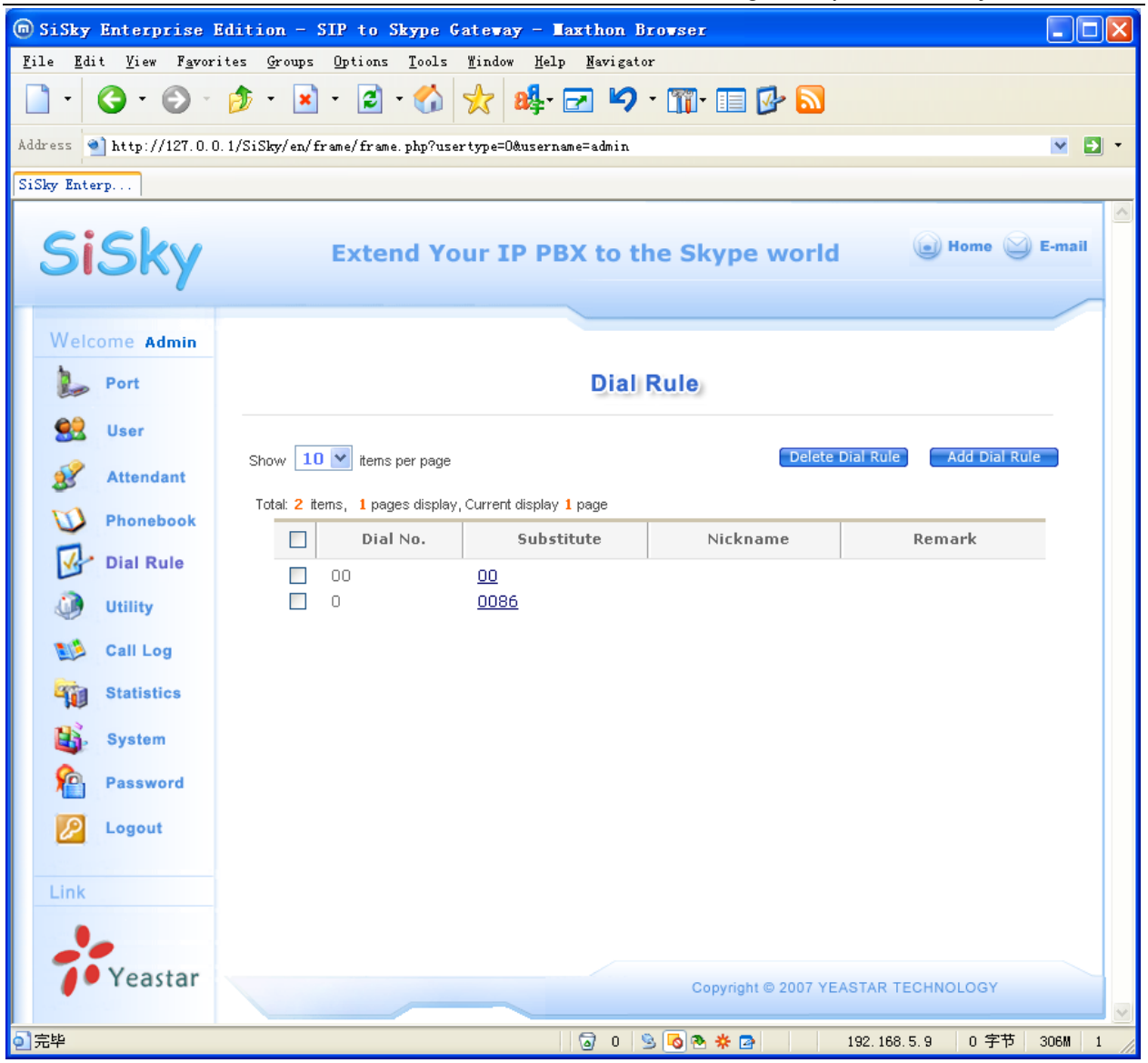


Figure 3-5

3.1.3 Set Skype incoming call route in SiSky

E.g. Configuration the **Port1** incoming route.
Step1: Open the SiSky Administration page → Port configuration page.
Step2: Choose Port1.
Example, If have skype user make callin,let it call to SIP Server's Extension number or IVR Number **7777**, and the SIP Server's IP Address is 192.168.5.246. so the configuration like below.
Direct In: 7777@192.168.5.246 (extension number@sip server's ip address)
Busy Transfer: selected "To Any Idle Port in this server"
Note: other ports settings like port1.

Port List
Port 1 Setting
Trunk Error! Please ensure if it is available.
SIP mode
Work as Asterisk'/IPPBX's Extension
Work as Asterisk'/IPPBX's Trunk
SIP Account:
Password:
SIP Proxy:
5060
SIP Domain:
DTMF Mode:
RFC 2833
Expire Time:
1800
STUN:
Disable
SIP Account:
Password:
DTMF Mode:
RFC 2833
STUN:
Disable
Skype Profile
Allow this Skype Status to be shown to everyone
Use Skype: Yes
Skype Status: No
Skype ID:
Skype Balance: 0
Other
Extension Number@SIP Server IP Address
Direct In:
7777@192.168.5.246
(always dial this number for incoming calls)
Direct Out:
(always dial this number for outgoing calls)
Busy Transfer:
No Transfer
To Any Idle Port in this Server
To Customized Skype ID

Figure 3-6

3.2 Set Cisco Call Manager Express

This section only introduces the connectivity part of Cisco Call Manager Express and SiSky. If you have any other questions regarding the configuration of Cisco Call Manager Express, please refer to Cisco Call Manager User Manual.

Connect CCME to SiSky Server

Config the dial peer in CCME, like below:

```
dial-peer voice 30 voip
translation-profile outgoing SIP CALL
destination-pattern 3T
session protocol sipv2
session target ipv4: 192.168.5.246
session transport udp
dtmf-relay rtp-nte
codec g711ulaw
ip qos dscp cs5 media
ip qos dscp cs4 signaling
no vad
!
!
```

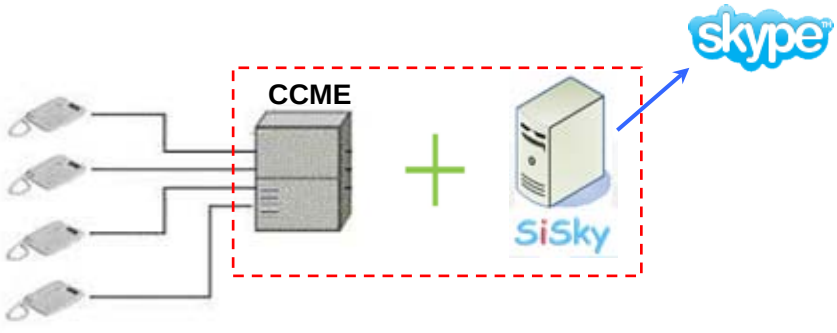
Note: 192.168.5.246 is SiSky's IP Address.

4. Sample

1. Application Demands

1) Utilizing SiSky as Skype landline for Cisco Call Manager Express
2) Make both domestic long distance and international calls at low rate

2. Application Environment



3. Test

1) Make call out via Skype

If extension 'ipphone' wants to make calls through Skype, dial like this: 00 + country code + city code + telephone number or 00 + country code + mobile phone number.

If you want to dial like this: 0+city code + phone number or 0 + mobile phone number, please configure the Dial Rule in sisky, see chapter 3.1.2

2) Receive the incoming call from Skype

Skype user make call to the SiSky server's skypeid, it will auto call to the extension number 7777.